

The VacScene

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The VacScene is a publication of Public Health – Seattle & King County written for health professionals. Content is consistent with the most current recommendations from the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP).

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Seattle & King County Receive Immunization Award

At the National Immunization Conference in March, the Centers for Disease Control and Prevention (CDC) presented Public Health – Seattle & King County with an award for improvement in immunization coverage by 17.4 percent among children age 19 to 35 months since 2001. This recognition reflects the dedication of the many King County healthcare professionals working to improve the health of our community through immunization, patient by patient. Thank you for your ongoing commitment, and keep up the good work!

Varicella Vaccination Now Required for School Entry

Washington has joined forty-five states by requiring varicella immunity for school entry. The new law will become effective July 1, 2006 for children under age 13. In 1999, the CDC's Advisory Committee on Immunization Practices (ACIP) recommended that varicella vaccination be required for child care and school entry – a strategy intended to have the greatest impact in reducing disease because of the higher incidence of varicella among children aged one to six years.

Compared with the rest of the country, Washington has been slow to adopt the varicella school requirement despite a link between higher immunization rates and school vaccination requirements. Washington's varicella immunization rate is among the lowest in the country at 77.6 (CI = ± 4.4) percent for children aged 19-35 months, according to the most recent results of the National Immunization Survey (2004). The King County rate was 84.5 (CI = ± 4.8) percent while the national rate was 87.5 (CI = ± 0.7) percent.

Vaccination Successful in Reducing Varicella Disease Burden

Before the varicella vaccine was widely used, each year in the US there were an estimated four million cases, 11,000 hospitalizations, and 100 deaths related to varicella (CDC, *MMWR* 48 RR06, 1999). Groups at increased risk for complications of varicella include healthy adults, immune compromised persons, and infants born to mothers with varicella rash onset within five days before to 48 hours after delivery.

Nationwide, varicella-related deaths from 1999-2001 declined by 78 percent from numbers reported from 1990-1994 (reducing mortality rates from 0.41 to 0.14 deaths per 1,000,000) according to the National Center of Health Statistics. The greatest reduction in mortality rates occurred among children aged one to four years.

Researchers in Alberta, Canada found 19.7 percent of invasive group A streptococcal (IGAS) disease reported among children ≤ 14 years of age between 2000-2002 were related to varicella infection.¹ Another study found a temporal association between the decline in varicella-related IGAS in children and varicella vaccination.² (For more information on varicella disease surveillance, visit: www.cdc.gov/nip/diseases/surv/vasp/default.htm.)

1. Tyrrell, GJ, Lovgren, M, Kress, B and Grimsrud, K, (2005). Varicella-associated invasive group A streptococcal disease in Alberta, Canada--2000-2002. *Clin Infect Dis*. 40(7):1055-7.

2. Patel, RA, Binns, HJ, and Shulman, ST (2004). Reduction in pediatric hospitalizations for varicella-related invasive group A streptococcal infections in the varicella vaccine era, *Journal of Pediatrics* 144 (1), 68-74.

Another Chance to View the CDC Four-Part Series

If you missed the CDC's live four-part satellite broadcast, *Epidemiology and Prevention of Vaccine-Preventable Diseases*, it may be accessed through: www.phppo.cdc.gov/phtn.

Question:

A health care worker has two documented varicella vaccinations, but the subsequent titer is negative.

Do you revaccinate?

CDC Response:

"We do not recommend serologic testing following varicella vaccination. Commercial antibody testing kits are usually not sensitive enough to detect vaccine-induced antibody. We recommend that a vaccinated person be considered immune on the basis of vaccination history. Please see the varicella section of the ACIP recommendations for the immunization of healthcare workers (pg 13), www.cdc.gov/mmwr/PDF/rr/rr4618.pdf."

*Donna L. Weaver, RN, MN, Nurse Educator
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Can Varicella Vaccine Virus Be Transmitted?

Transmission of the varicella vaccine virus is very rare. It has been documented in healthy persons on three occasions out of the 21 million doses of vaccine distributed. All three cases resulted in mild disease without complications. It appears that transmission may occur when the vaccinee develops a rash. A varicella-like rash (median of two lesions) at the injection site is reported in 1-3% of vaccine recipients, and a generalized varicella-like rash (median of five lesions) is reported by 4-6%.

Household contacts of immune suppressed people should be immunized to protect high risk people against wild virus varicella infection which is much more likely to occur than disease from vaccine virus.

Should Adults Be Vaccinated Against Varicella?

The CDC encourages all non-immune adults to be vaccinated against varicella. The ACIP also recommends vaccination for the following susceptible adolescents and adults:

- ◆ Persons who live or work in environments in which varicella transmission is likely (e.g., teachers of young children, daycare employees, and residents/staff in institutional settings)
- ◆ Persons who live or work in settings where varicella transmission can occur (e.g., military, educational, and correctional institutions)
- ◆ Nonpregnant women of childbearing age (pregnancy should be avoided for one month following vaccination)
- ◆ Adolescents and adults living in households with children
- ◆ International travelers

(To review the complete ACIP statement on varicella, visit: www.cdc.gov/mmwr/preview/mmwrhtml/rr4806a1.htm.)

Varicella Vaccine Contraindications and Precautions

Contraindications: Severe allergic reaction to a vaccine component (neomycin or gelatin), pregnancy, recent receipt of a blood product (in the past five months). **Precautions:** Moderate or severe acute illness, and immunosuppression. **Exception:** Persons with isolated humoral immunodeficiency **may** be vaccinated, and vaccination may be considered for asymptomatic HIV-infected children with CD4 percentage of $\geq 15\%$ (CDC class A1 and N1).

Breakthrough Varicella in Vaccinated Children

Immunity to varicella after vaccination appears to be long-lasting in most recipients. In field trials, varicella vaccine is approximately 80-85% effective against infection and more than 95% effective against severe disease. Thus, mild "breakthrough" infections can and do occur. A breakthrough infection is defined as a case of varicella that occurs more than 42 days after vaccination following exposure to wild virus. The breakthrough rate is estimated to be approximately two percent per year, and does not appear to increase with length of time since vaccination. Typically, patients with breakthrough disease are afebrile, develop less than 50 skin lesions (with few vesicular lesions), and experience a milder illness of shorter duration.

Vaccinated children with breakthrough disease may be managed differently than unvaccinated children with varicella infection. The CDC has suggested children be excluded from school until, "lesions have crusted over, faded away, or **no new lesions appear within a 24-hour period.**" In the absence of other clinical criteria, if no new lesions have erupted in 24 hours in the vaccinated child, he or she could be allowed to return to school.

Varicella Post-Exposure Prophylaxis (PEP)

Varicella vaccine is recommended to control outbreaks for use in persons without evidence of varicella immunity. ACIP also now recommends a second dose of varicella vaccine for outbreak control. During a varicella outbreak, persons who have received one dose of varicella vaccine should, resources permitting, receive a second dose, provided the appropriate vaccination interval has elapsed since the first dose (three months for children ≤ 12 years, and four weeks for persons ≥ 13 years).

Limited Supplies of VZIG

Now that Varicella Zoster Immunoglobulin (VZIG) is no longer being produced, there is a limited supply of doses remaining from the manufacturer. An alternative product, VariZIG, has been made available under an investigational drug application expanded access protocol. For treatment of patients for whom varicella PEP is indicated, health care professionals should contact FFF Enterprises at 1-800-843-7477 for more information about either product. To read the CDC recommendations for the use of VariZIG published in the February 24, 2006, *MMWR*, visit: www.cdc.gov/mmwr/preview/mmwrhtml/mm55e224a1.htm.

Thimerosal Legislation

Recently, Washington State legislated restrictions on the administration of vaccines containing thimerosal*. Organizations including, the CDC, Food and Drug Administration, National Institute of Medicine, American Academy of Pediatrics and World Health Organization have determined there is no credible evidence that thimerosal in vaccines poses a threat to the health and safety of children. The new measure uses the questionable rationale that it is needed to maintain public confidence in

*Thimerosal is a preservative composed of ethylmercury.

...Continued from page 2

vaccine programs to prevent a reduction in immunization rates that could lead to the return of vaccine-preventable diseases in our state. The new law (chapter 70.95M RCW) will take **effect July 1, 2007**, and sets the following parameters for use of thimerosal-containing vaccines:

- (1) **No more than 0.5 mcg of mercury per 0.5 ml dose of vaccine will be allowed for pregnant women and children less than three years.**
- (2) **Influenza vaccine may contain up to 1.0 mcg of mercury per 0.5 ml dose.**
- (3) **The Secretary of the Department of Health may, upon declaration of a public health emergency, suspend the requirements of this section for the duration of the emergency.**

Unfortunately, this law promotes the mistaken impression that the thimerosal content represented a health risk, and depending on the flu vaccine supplies and cost in 2007, this law may have a negative impact on flu vaccine usage.

New Rotavirus Vaccine: Rotateq

Approximately 2.7 million cases of rotavirus occur each year in the US. By age five, almost every child has been infected with rotavirus, and most of them develop gastroenteritis. Rotavirus is responsible for more than 200,000 emergency department visits, 55,000 to 70,000 hospitalizations, and between 20 and 60 deaths in American children under five years of age.

Although it is not official until it is published in *Morbidity and Mortality Weekly Report*, ACIP has voted to add a live oral rotavirus vaccine (Rotateq) to the list of immunizations recommended for infants at two, four and six months of age. Studies indicate that Rotateq has the capability to prevent about 74 percent of all rotavirus cases, and 98 percent of the most severe cases, including 96 percent of the cases requiring hospitalization. In clinical trials, the vaccine prevented 59 percent of all cases of gastroenteritis hospitalizations.

The newly licensed vaccine is made differently than RotaShield, a vaccine that was withdrawn from the market in 1999 after it was found to be associated with intussusception, a condition in which the bowel telescopes into itself and leads to obstruction. In a large scale trial of 70,000 children, there was no association of an increased risk of intussusception with Rotateq.

New Population Studies Confirm Withdrawal of MMR Vaccine Has No Effect on Autism Incidence

Researchers looked at rates of autism in Yokohama, Japan where MMR vaccine had stopped being administered in 1993. The study found that cumulative incidence of autism spectrum disorder (ASD) increased significantly in the birth cohorts of years 1988 through 1996, and most notably rose dramatically beginning with the birth cohort of 1993. The cohort included children born from 1988 to 1996 (population approximately 300,000).¹ A literature review of large epidemiological studies that used standardized screening, reliable and valid diagnostic assessments made by trained professionals was recently conducted. The review concluded that the true incidence of ASD was within the range of 30 to 60 cases per 10,000 which is substantially higher than the 40-year-old original estimate of four per 10,000. The increase is attributed largely to broadening of the diagnostic criteria.² (Footnotes listed on page 4...)

King County VFC News

-Vaccines for Children Program-

Allowable Fees

As stated in the Outside Provider Agreement, VFC participants are limited to charging \$15.60 per dose of state-supplied vaccine. This is the total charge allowed, whether as a single charge or when split between the vaccine administration CPT code and the vaccine code (with SL modifier). This cost cap applies even when Medicaid or insurance carriers do not reimburse the full \$15.60. Examples of allowable fees: (1) \$15.60 in the admin code—903** or 904**, and \$0 in the vaccine code—906**-SL or 907**-SL; (2) \$10 in the admin code and \$5.60 in the vaccine code (or any combination not to exceed \$15.60 for the two codes added together). A newer CPT code, 90465/90466-Imms Admin under eight years with physician counseling, is a vaccine administration code, rather than a physician visit code, and it should be included in the \$15.60 total. There has been some confusion regarding the use of this code, and health care providers are advised to review coding and assure the cost cap is not exceeded for state-supplied vaccines. The VFC Program does not limit office visit fees, although providers are strongly encouraged to make immunization visits as affordable as possible for all families. Providers are also prohibited from denying immunization services to families who cannot pay vaccine and vaccine administration fees.

Health care providers may charge more than \$15.60 per dose when a child does not meet federal requirements for state-supplied vaccine. In order to document this, however, providers must screen all children seen in the practice year-round (as is done during the annual benchmarking month), and provide this documentation to Public Health—Seattle & King County or Washington State Department of Health on a monthly basis, along with the storage and inventory reports.

New Vaccines Available Through VFC

State funding has been approved for inclusion of both meningococcal conjugate (MCV) and tetanus, diphtheria, pertussis (Tdap) vaccines through the Washington State VFC Program, with a start-up date to be announced but most likely July 1, 2006. It is unlikely that other vaccines – the MMR and varicella combination (MMRV), rotavirus, HPV (human papillomavirus) or pentavalent (Hib/DTaP/IPV) will be added to Washington State VFC this year.

Increased Demand Possible for Varicella Vaccine

Providers may anticipate a surge of requests for varicella vaccinations to meet the school requirement effective July 1st of this year. Please order vaccine to support any anticipated increase in your practice setting. Note that a child with a history of varicella or vaccination can meet the requirements for school entry. The requirement applies to children entering kindergarten and 6th grade this year, and those ≥19 months in child care. Clinics/practices that would like to begin offering varicella vaccine should contact the VFC Program at (206) 296-4774 to discuss the vaccine's special storage and handling needs.

Return Services Requested

Footnotes from "New Population Studies Confirm Withdrawal of MMR Vaccine Has No Effect on Autism Incidence" page 3...

1. Honda, H. et al, 2005. No effect of MMR withdrawal on the incidence of autism: a total population study, *J Child Psychol Psychiatry*. Jun., 46(6):572-9.
2. Rutter, M., 2005. Incidence of autism spectrum disorders: changes over time and their meaning. *Acta Paediatr*. Jan., 94(1):2-15.

Let's Celebrate National Infant Immunization Week!

National Infant Immunization Week, **April 22-29**, is an excellent opportunity to promote the benefits of immunizations and focus on the importance of protecting infants against vaccine-preventable diseases by age two. CDC offers materials and resources for creating a kickoff event, accessible at: www.cdc.gov/nip/events/niiw/default.htm.

Highlights

Updated Strategies to Prevent Hepatitis B Infection

The ACIP recently published a report (*MMWR*, December 23, 2005) that addresses prevention of hepatitis B virus (HBV) transmission infants, children, and adolescents. (This is the first of a two-part statement; Part II will focus on adults, and has yet to be published.)

Part I includes strategies to improve the prevention of perinatal and early childhood HBV transmission through the implementation of universal infant vaccination beginning at birth, and increasing vaccine coverage among previously unvaccinated children and adolescents. Recommendations include 1) establishing standing orders for the birth dose of hepatitis B vaccine; 2) instituting hospital policies and case management programs to improve identification of and administration of immunoprophylaxis at the time of delivery to infants born to mothers who are hepatitis B surface antigen (HBsAg) positive and to mothers with unknown HBsAg status; and 3) implementing vaccination record

reviews for all children aged 11-12 years and children and adolescents aged <19 years who were born in countries with intermediate and high levels of HBV endemicity, adopting hepatitis B vaccine requirements for school entry, and integrating hepatitis B vaccination services into settings that serve adolescents. To access a ready-to-print (PDF) version, go to: www.cdc.gov/mmwr/PDF/rr/rr5416.pdf.

2006 National Immunization Conference

Immunization program staff people from across the country met in Atlanta, March 6-9th for the 40th annual National Immunization Conference. A wide variety of topics were covered, from disease surveillance to new vaccines. Some presentations were recorded, and may be viewed at: <http://www.cdc.gov/nip/NIC/default.htm> (scroll down to "Conference Recordings and Slides"). To view the presentation made by David Bibus of Public Health – Seattle & King County, visit: <http://cdc.confex.com/cdc/nic2006/techprogram/P10119.HTM>.

Available in alternate formats